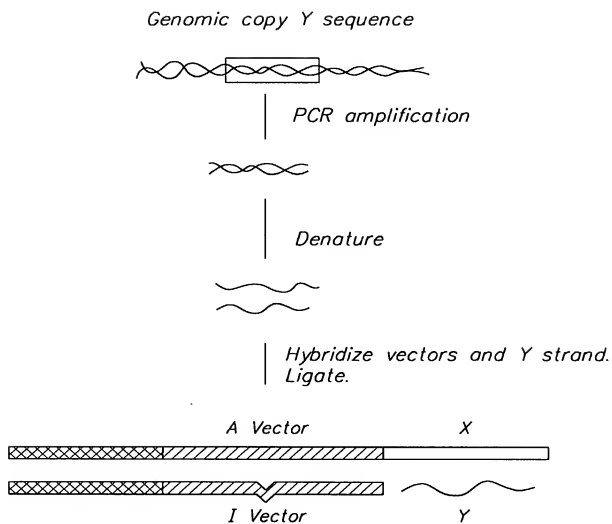
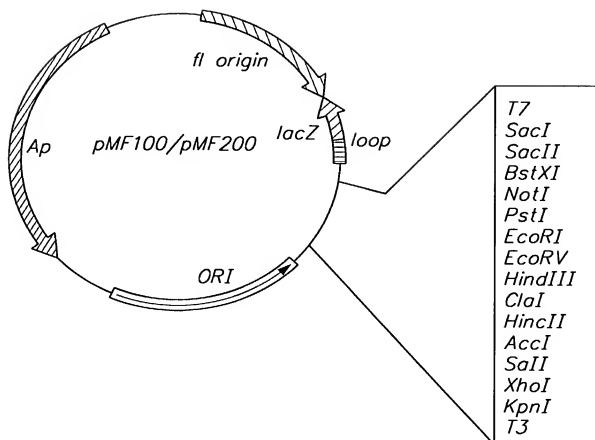
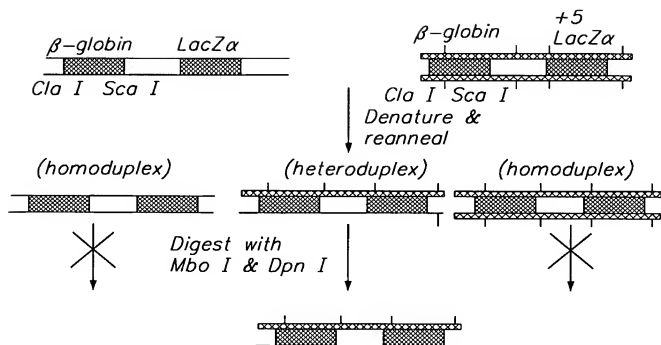
**FIG. 1**

**FIG. 2**

**FIG. 3**

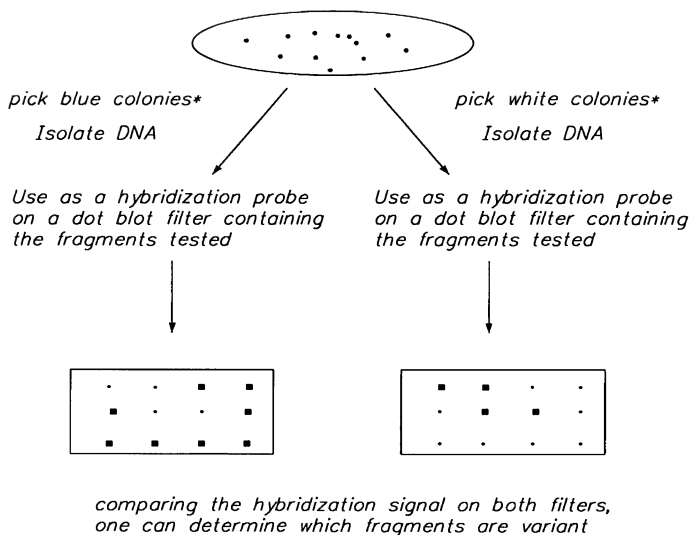


I: methylated GATC

—: plasmid with intact *LacZ* $\alpha$

⊞: plasmid with a 5 bp insertion in *LacZ* $\alpha$

**FIG. 4**

**FIG. 5**

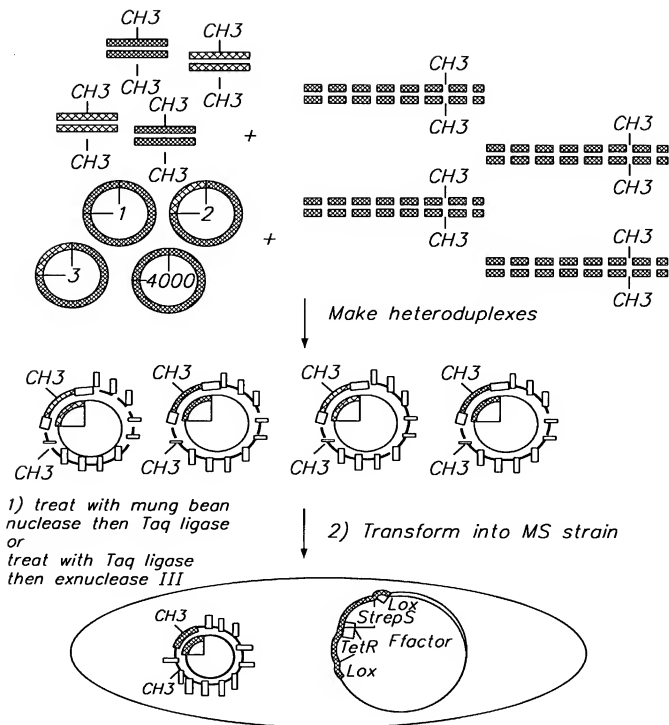
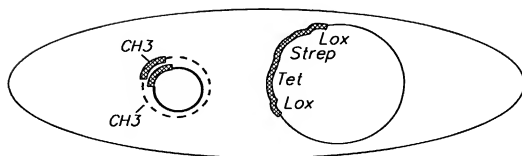
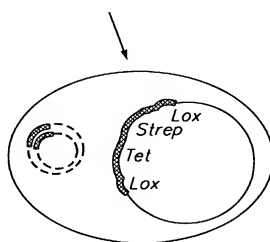
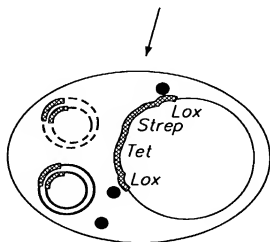


FIG. 6A



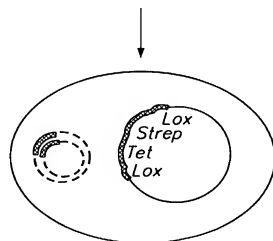
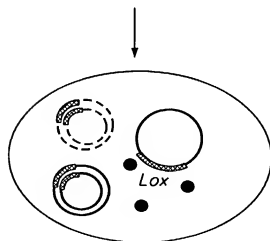
*In absence of a variation,  
no repair occurs.  
Both strands are replicated*

*In presence of a variation,  
repair occurs. Only the  
strand w/inactive Cre is replicated*



*Active Cre is present in the cell*

*Active Cre is absent in the cell*



*Cell is Tet sensitive  
& Strep resistant*

*Cell is Tet resistant  
& Strep sensitive*

**FIG. 6B**

Cells are grown in two tubes supplemented either with

*Tetracycline*

or

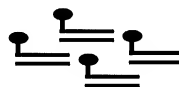
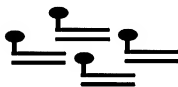
*Streptomycin*



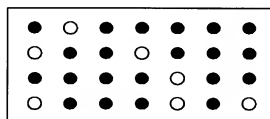
Next day DNA is prep'd from the pool of the cells grown in each tube

DNA from the Tet pool is labeled with green fluorescence

DNA from the Strep pool is labeled with red fluorescence

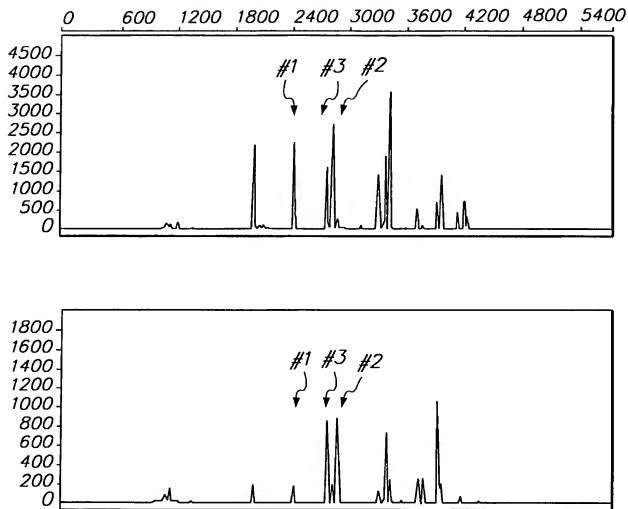


DNA from both pools are mixed and hybridized to a DNA microarray.  
Each spot corresponds to a different gene fragment that is being tested



**FIG. 6C**



**FIG. 7**